

REMARKS

In the Office Action, the drawings are objected to; claim 4 is objected to; claims 3 and 5 are rejected under 35 U.S.C. § 112, second paragraph; and claim 1 is rejected under 35 U.S.C. § 103. Claims 3 and 5 have been amended; and claims 6-12 have been allowed. Applicants believe that the rejections have been overcome or are improper in view of the amendments and for the reasons set forth below.

At the outset, the Patent Office has objected to Figs. 7-9. The Patent Office has indicated that Figs. 7-9 each require the legend "Prior Art." In response, Applicants are submitting herewith Figs. 7, 8A, 8B and 9 with changes as indicated by the Patent Office. These figures have been submitted in formal and thus Applicants believe that the objection to the drawings should be withdrawn.

In the Office Action, claim 4 has been objected to. The Patent Office essentially asserts that claim 4 should indirectly depend from claim 2. In response, claim 3 has been amended to depend from claim 2. Claim 4 depends from claim 3 and thus now indirectly depends from claim 2. Accordingly, the objection with respect to claim 4 should be withdrawn.

In the Office Action, claims 3 and 5 are rejected under 35 U.S.C. § 112, second paragraph. The Patent Office asserts that claim 3 should depend from claim 2 instead of claim 1; and that claim 5 should depend from claim 2 instead of claim 1. In response, Applicants have amended both claims 3 and 5 to depend from claim 2 and thus believe that this rejection should be withdrawn in view of same.

In the Office Action, claim 1 is rejected under 35 U.S.C. § 103 as allegedly unpatentable over U.S. Patent No. 6,621,921 ("*Matsugu*"). Applicants believe that the obviousness rejection is improper based on at least these reasons discussed below.

Claim 1 recites a camera calibration device for calibrating a stereo system which includes a base camera and a detection camera. The device includes an image holding device for holding images obtained by shooting a plane, where a known pattern is drawn with the base camera and the detection camera at at least three view points free from any spatial positional restriction; and a parameter calculating device for calculating parameters necessary for distance measurement in the stereo system based on the images held by the image holding part.

Applicants believe that the *Matsugu* reference is deficient with respect to the claimed invention as defined by claim 1 for at least a number of reasons. For example, Applicants

believe that *Matsugu* fails to disclose or suggest shooting with a base camera and a detection camera at three or more view points free from any spatial positional restriction as required by the claimed invention and discussed above. Indeed, *Matsugu* merely provides a predetermined image pattern whose shape and position are known. See, *Matsugu*, for example, claim 1.

In contrast, the present invention enables determination of internal parameters without shape and position data of image pattern and position data of view point by using a shoot image pattern at three view points. In this regard, internal parameters are defined, for example, in matrix A in equation 2 as disclosed in the specification on page 11. The internal parameters can be obtained according to the procedure as further disclosed in the specification, for example, at page 18. Six constraints are necessary to obtain the internal parameters since the internal parameters include five parameters as defined in matrix A as discussed above. The three shoot images produce six constraints since one image produces two constraints as disclosed, for example, in equation 12 or equation 14 of the specification. Therefore, the three shoot images are necessary to obtain the internal parameters. Again, nowhere does *Matsugu* disclose or suggest such features as required by the claimed invention.

Based on at least these reasons, Applicants believe that *Matsugu* is distinguishable from the claimed invention. Therefore, Applicants believe that *Matsugu* fails to render obvious the claimed invention as defined by claim 1.

Accordingly, Applicants respectfully request that the obviousness rejection with respect to claim 1 be withdrawn.

For the foregoing reasons, Applicants respectfully submit that the present application is in condition for allowance and earnestly solicit reconsideration of same.

Respectfully submitted,

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